

# Envisat ASAR Acquisitions



**Ron Kwok**  
*Jet Propulsion Laboratory*  
*California Institute of Technology*



## Topics



- **Envisat Coverage**
- **Sea ice deformation: Comparison with AMSR**
- **Envisat and ICESat**



# Envisat Coverage



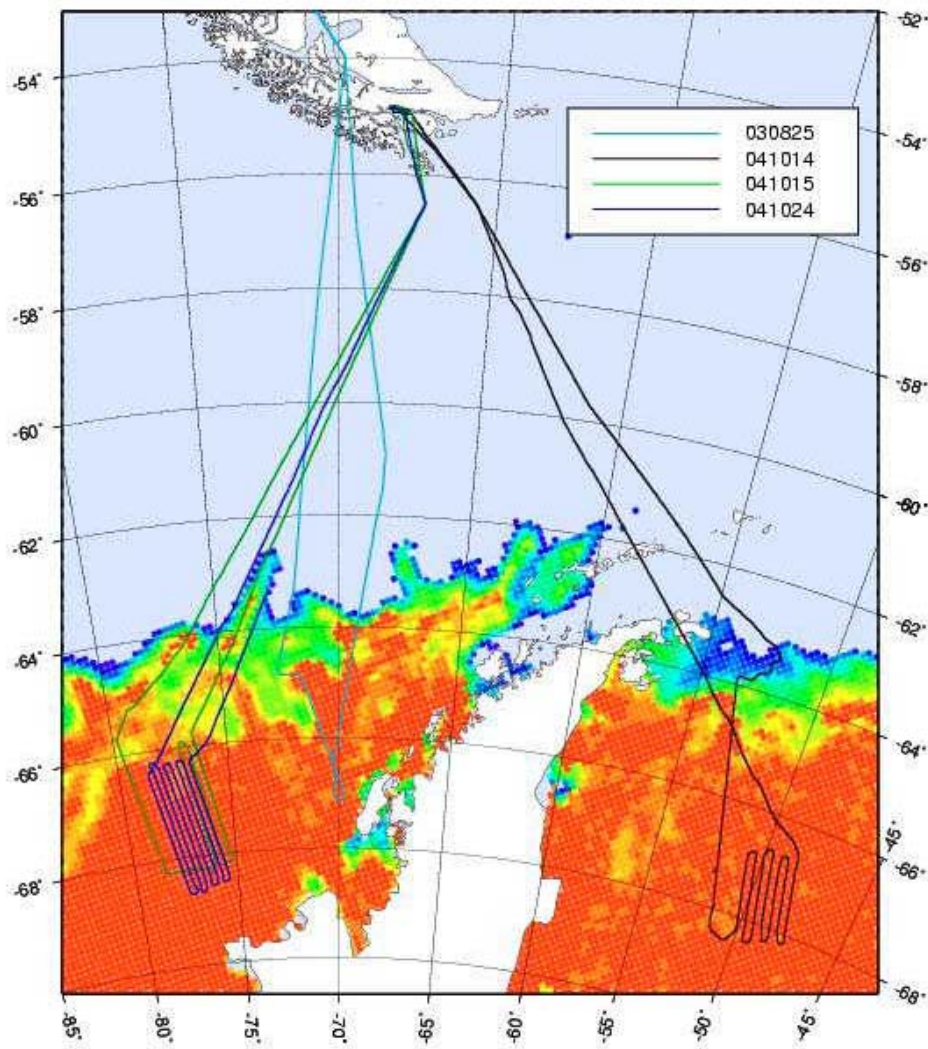
## ENVISAT Coverage



- Acquisitions under ESA Cat-1 proposal (Kwok and Comiso) for SAR coverage during AASI
- Image characteristics
  - swath: ~450 km by 500 km
  - frequency: C-band
  - resolution: ~100 m
- Daily coverage maps available

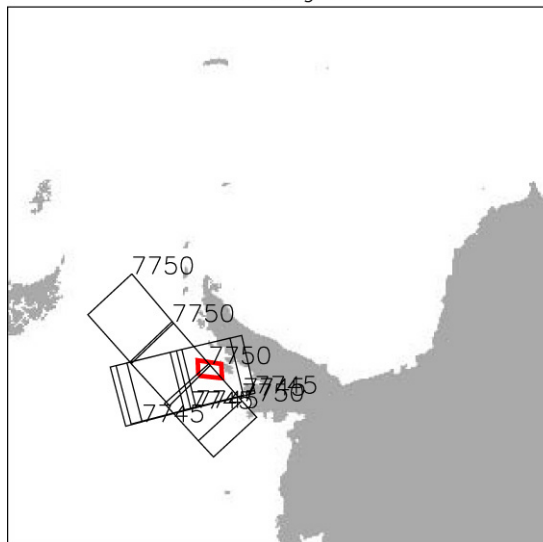
	<u>2003</u>	<u>2004</u>
Number of Images	201	121
Time Span	8/21 - 9/27	10/3 - 10/26

# 2004 AASI Completed Flights AMSR-E Sea Ice Concentration Shown for 041021

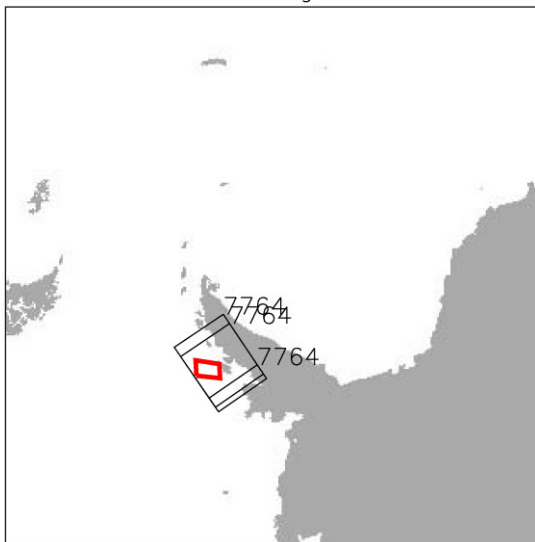


# Coverage Aug 24-26, 2003

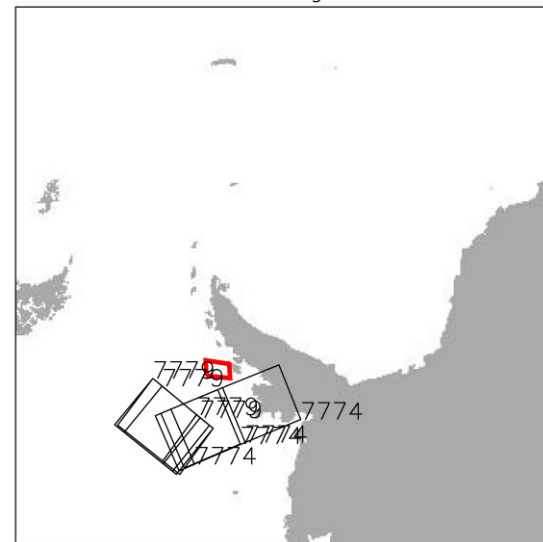
2003 Aug 24



2003 Aug 25



2003 Aug 26

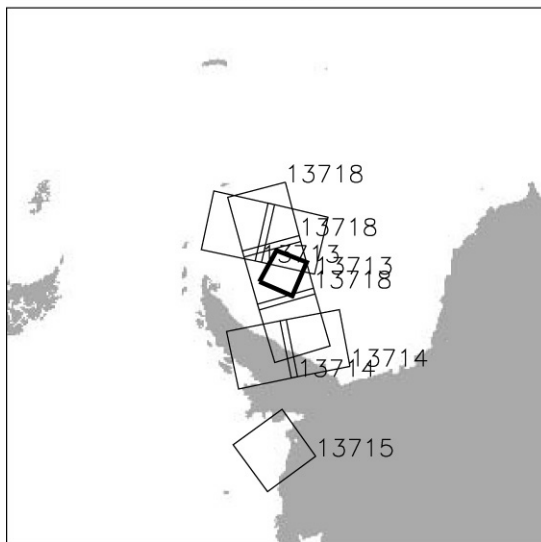




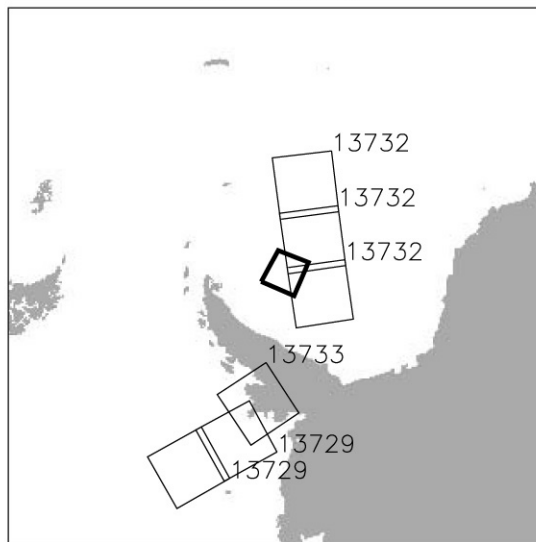
# Coverage Oct 14-16, 2004



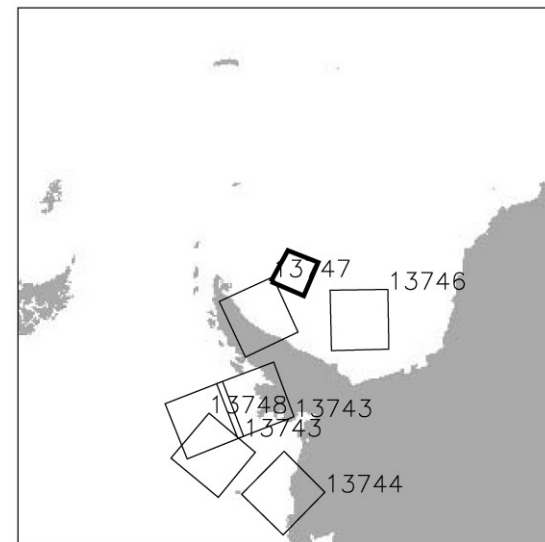
2004 Oct 14



2004 Oct 15



2004 Oct 16

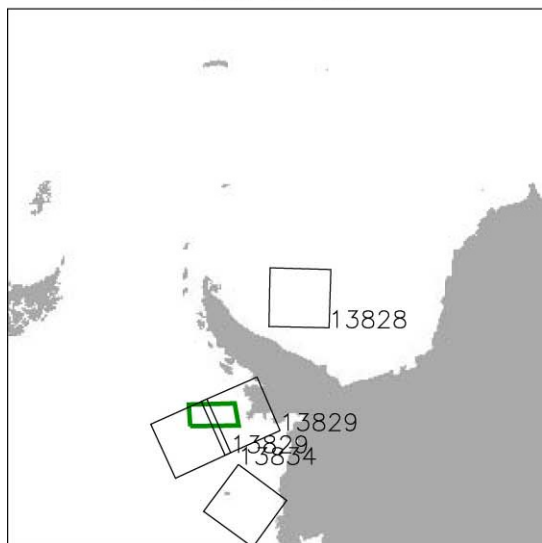




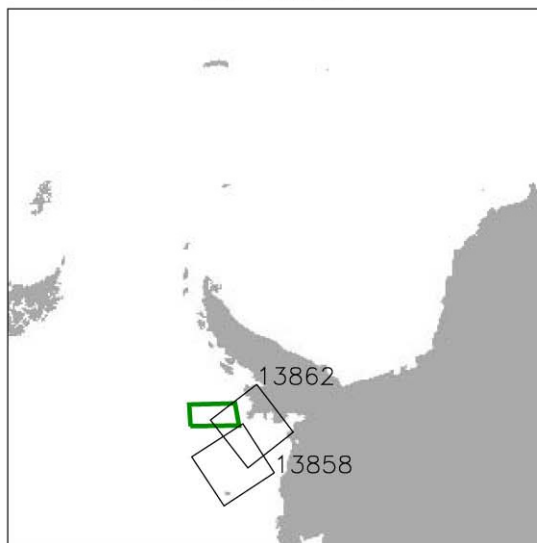
# Coverage Oct 22-25, 2004



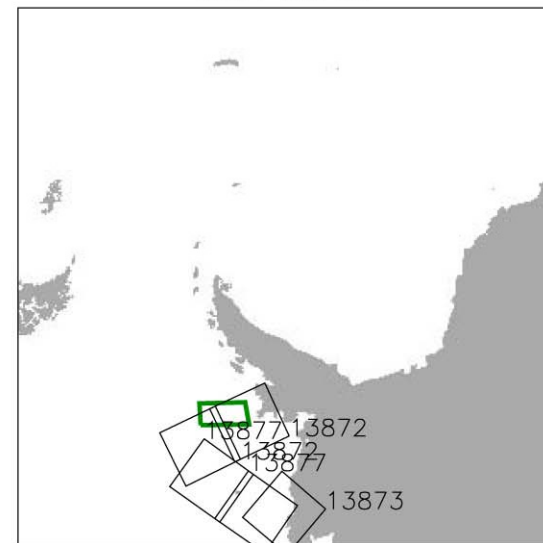
2004 Oct 22



2004 Oct 24



2004 Oct 25



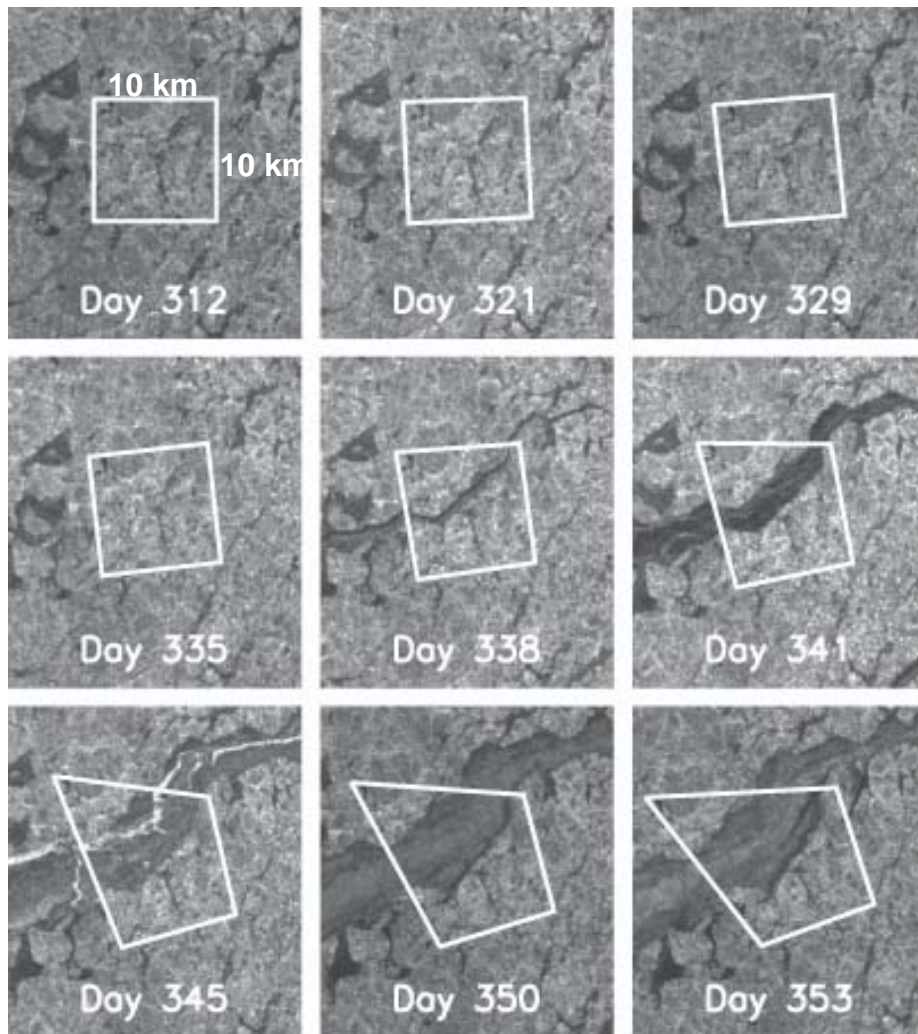




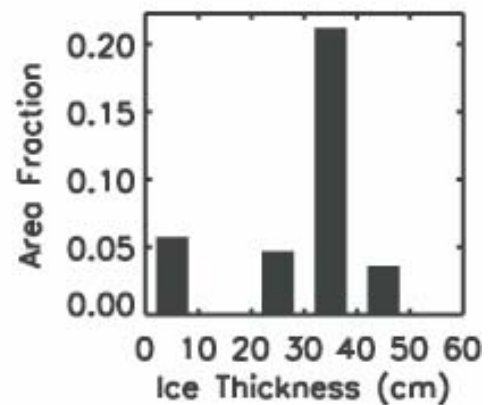
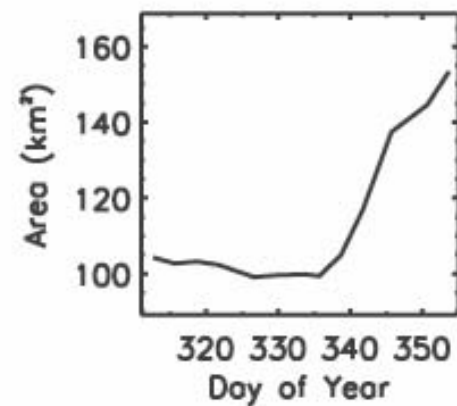
# Daily sea ice deformation Openings/Closings

# ICE THICKNESS FROM KINEMATICS

## One RGPS Grid Cell



**Grid Cell Area**

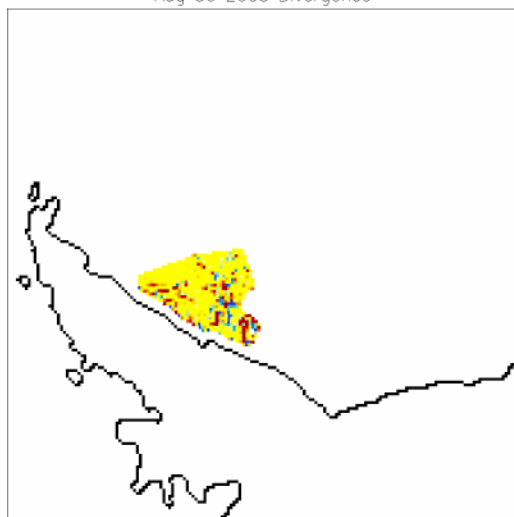




Location of SHEBA, Nov 97

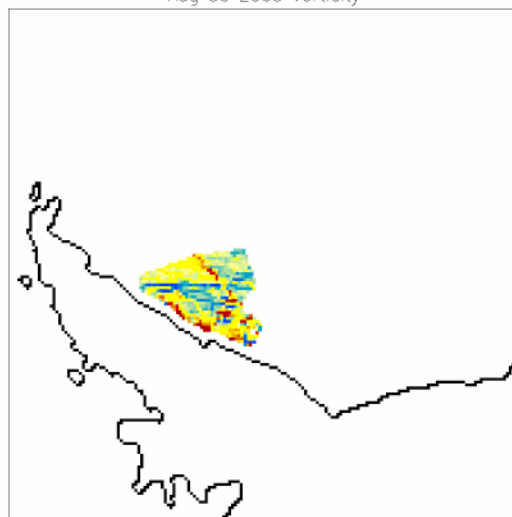


Aug 30 2003 Divergence



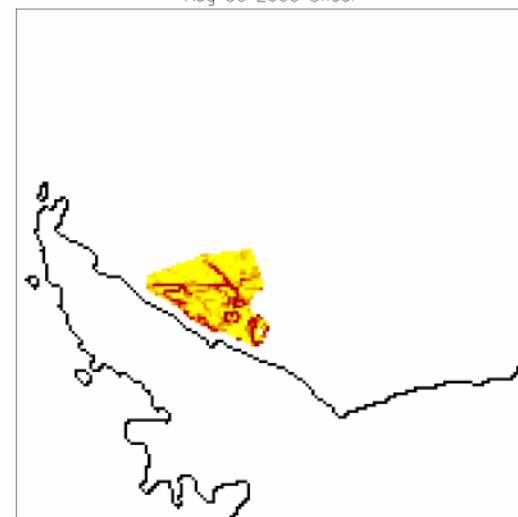
Divergence  
-0.20 0 0.20

Aug 30 2003 Vorticity

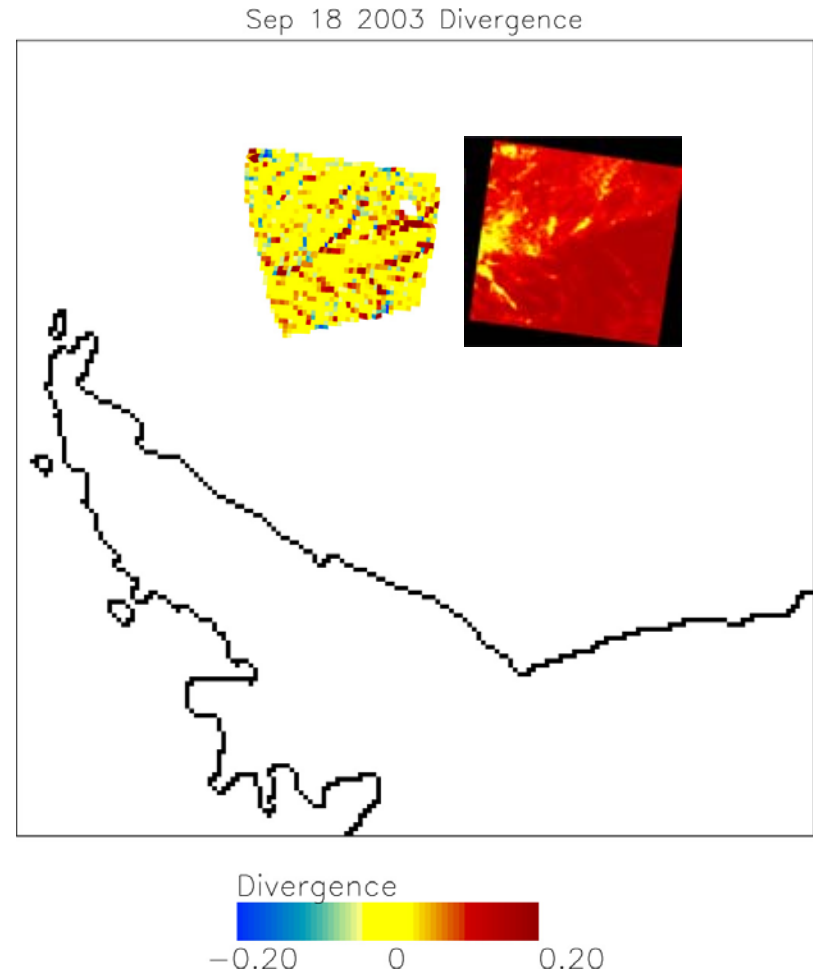
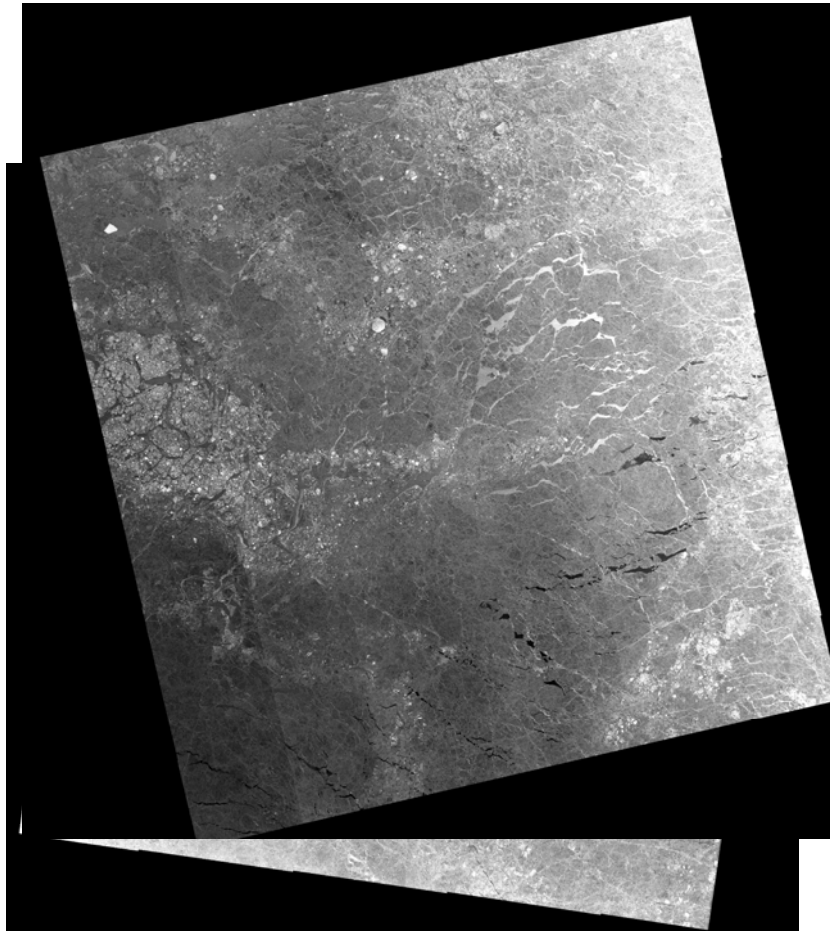


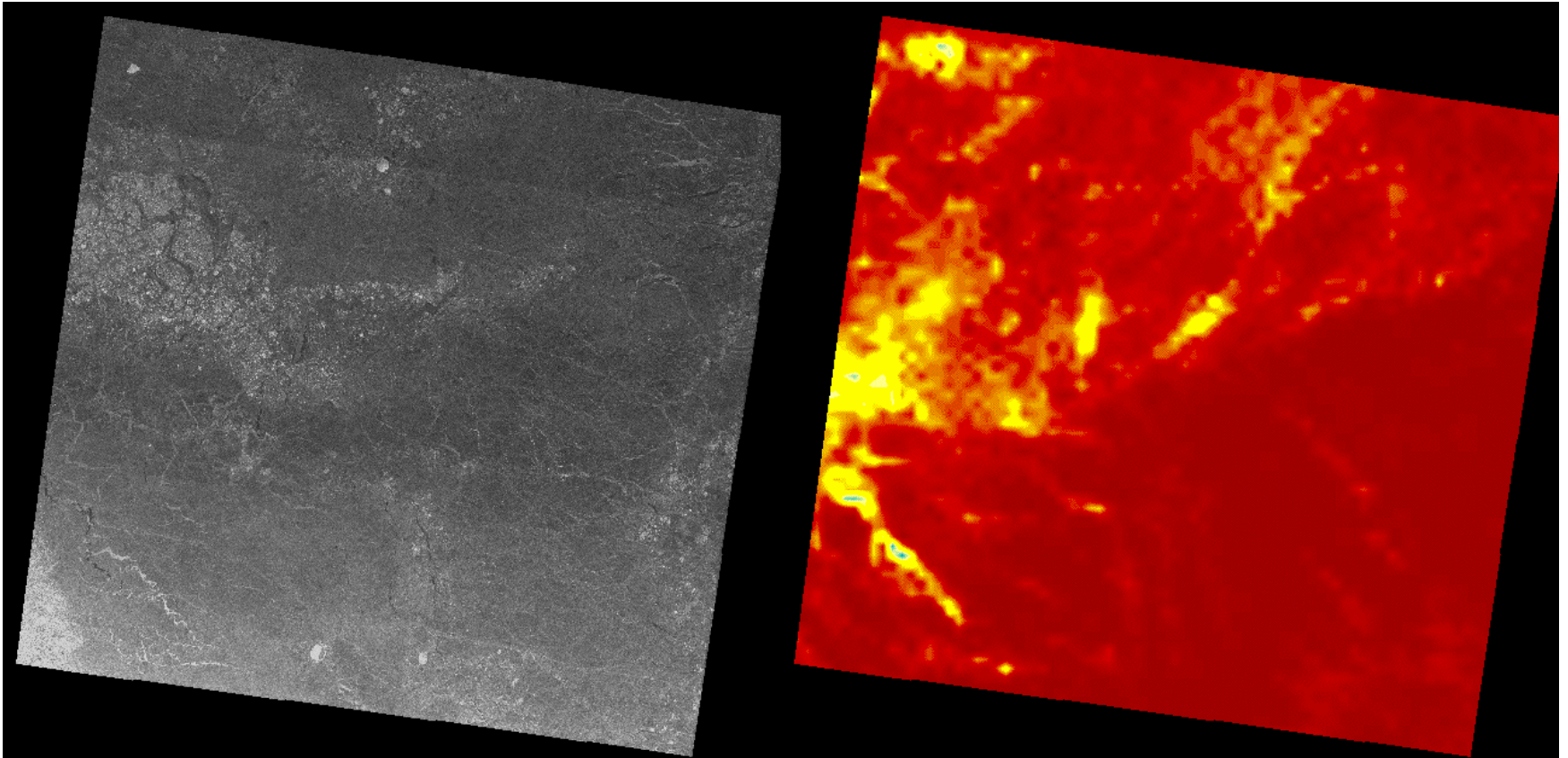
Vorticity  
-0.30 0 0.30

Aug 30 2003 Shear

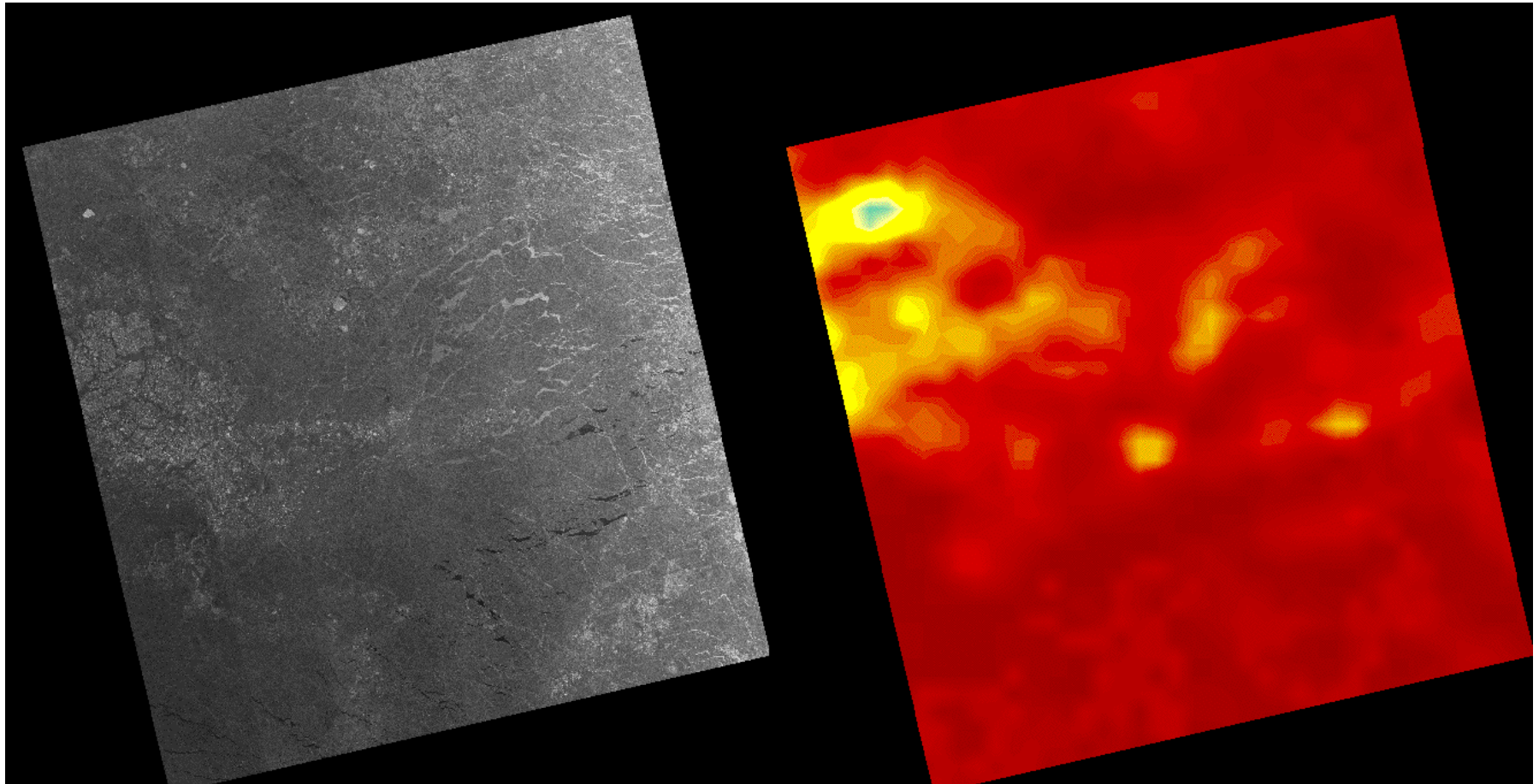


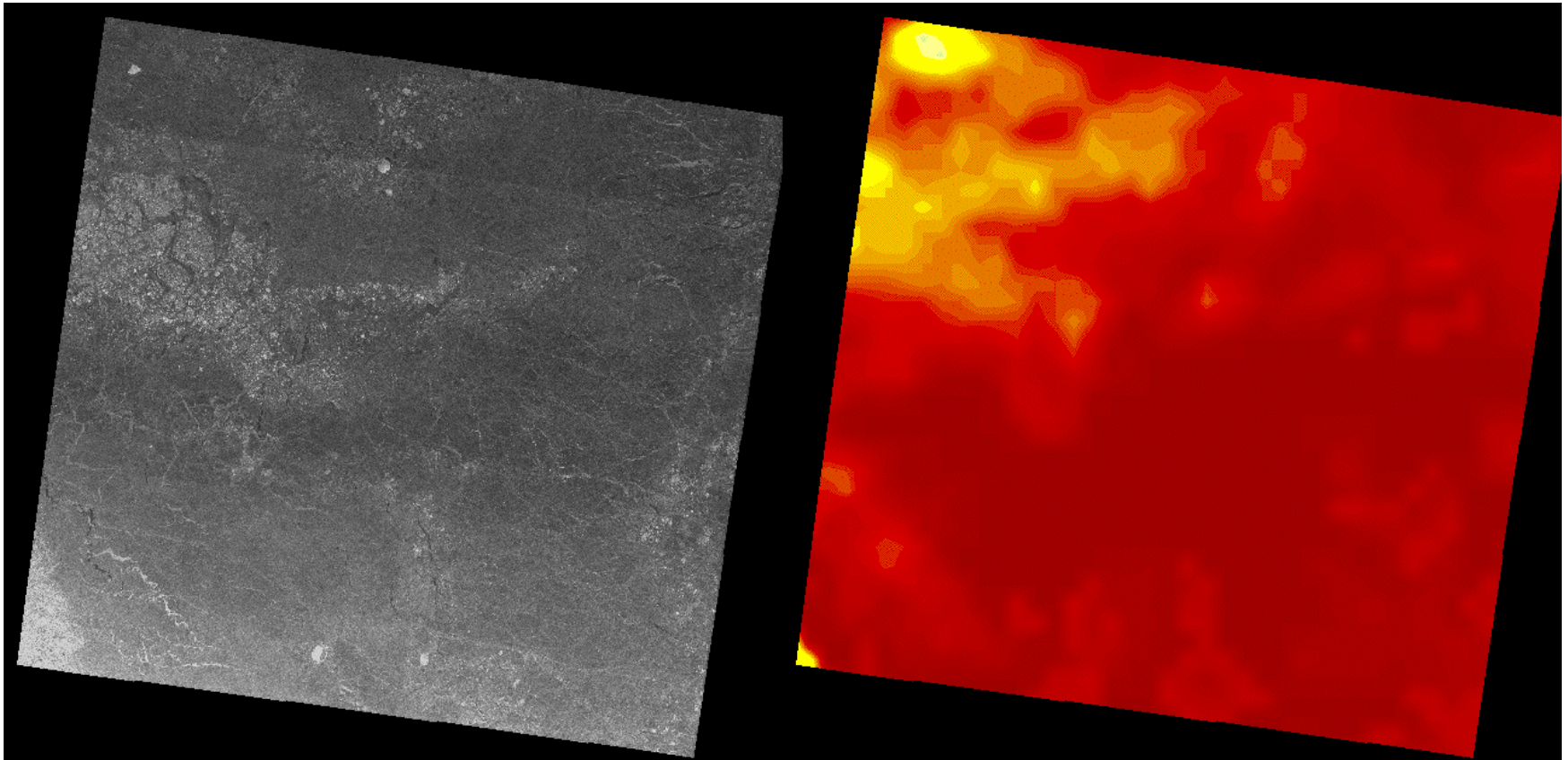
Shear  
0.00 0.20 0.40















# Near-coincident Envisat vs ICESat

JPL

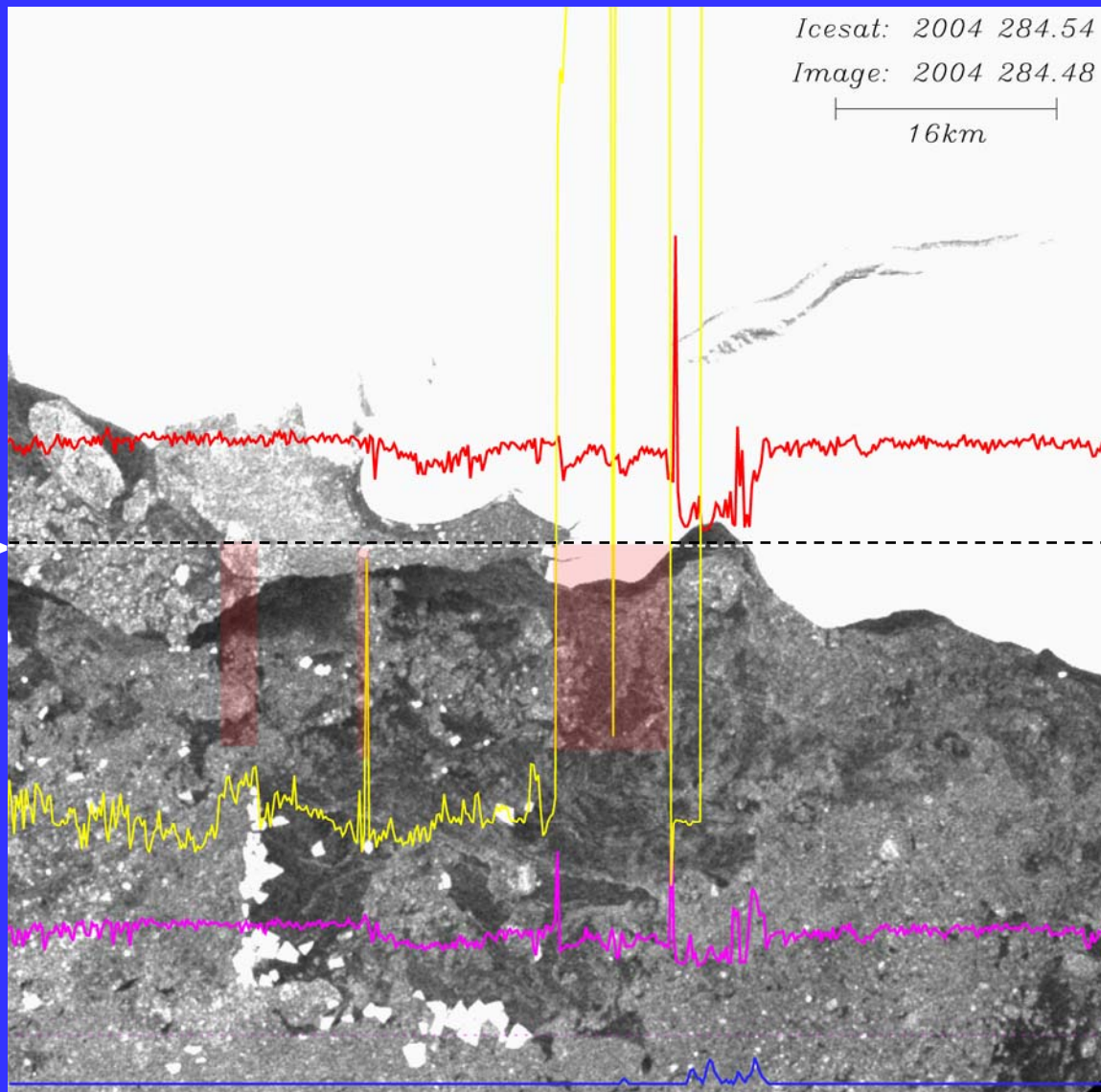


Icesat: 2004 284.54

Image: 2004 284.48

16km

TRACK >

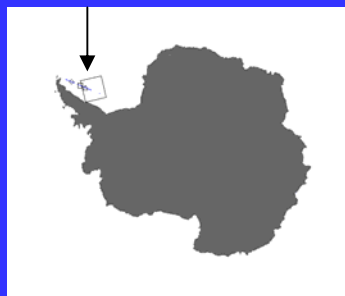


Reflectivity

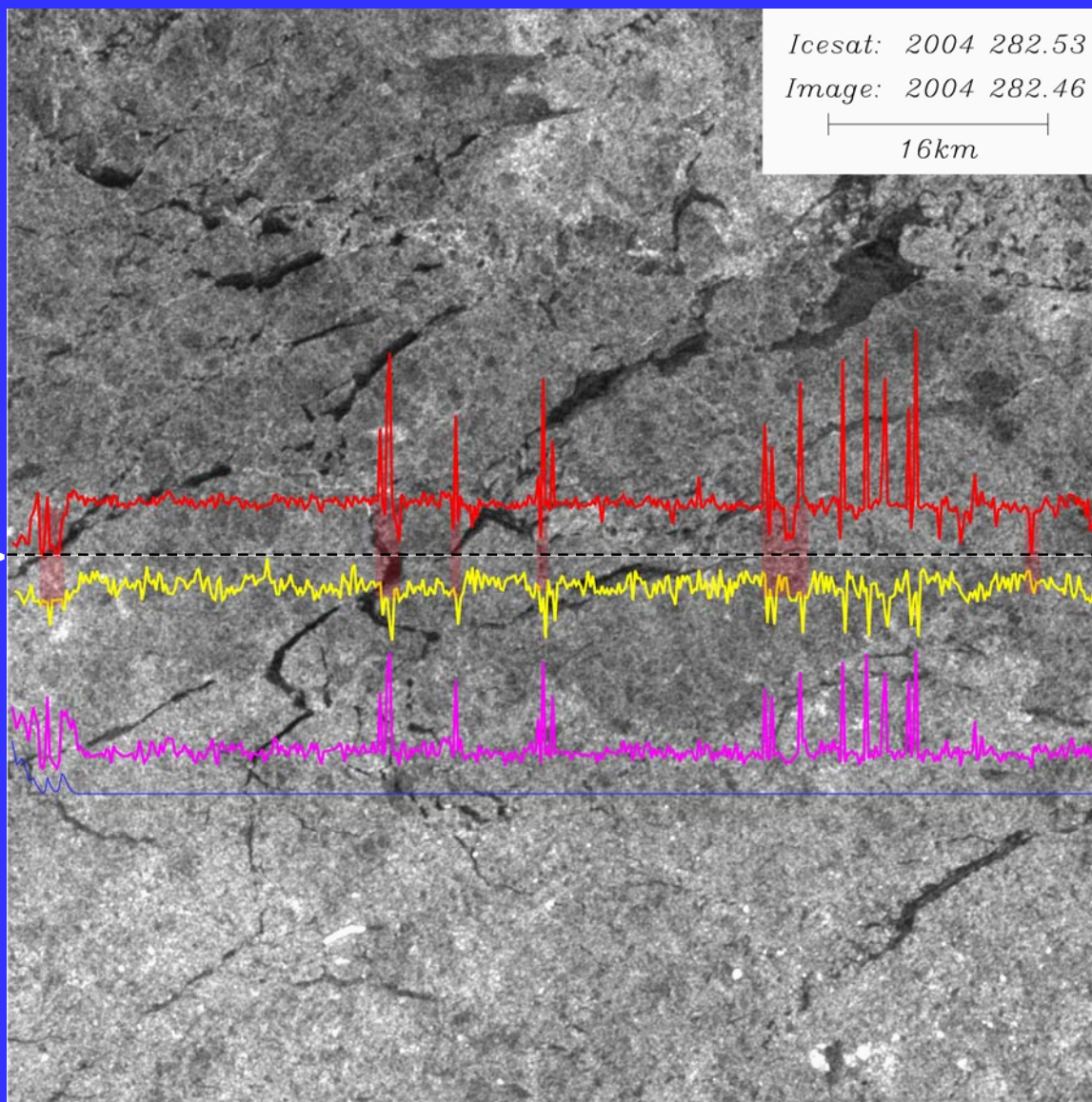
Elevation

SIVAR

Gain



TRACK >

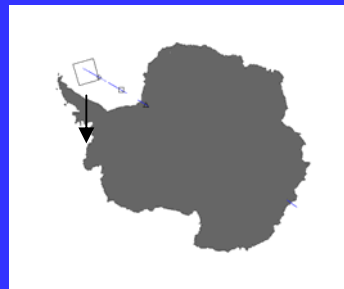


Reflectivity

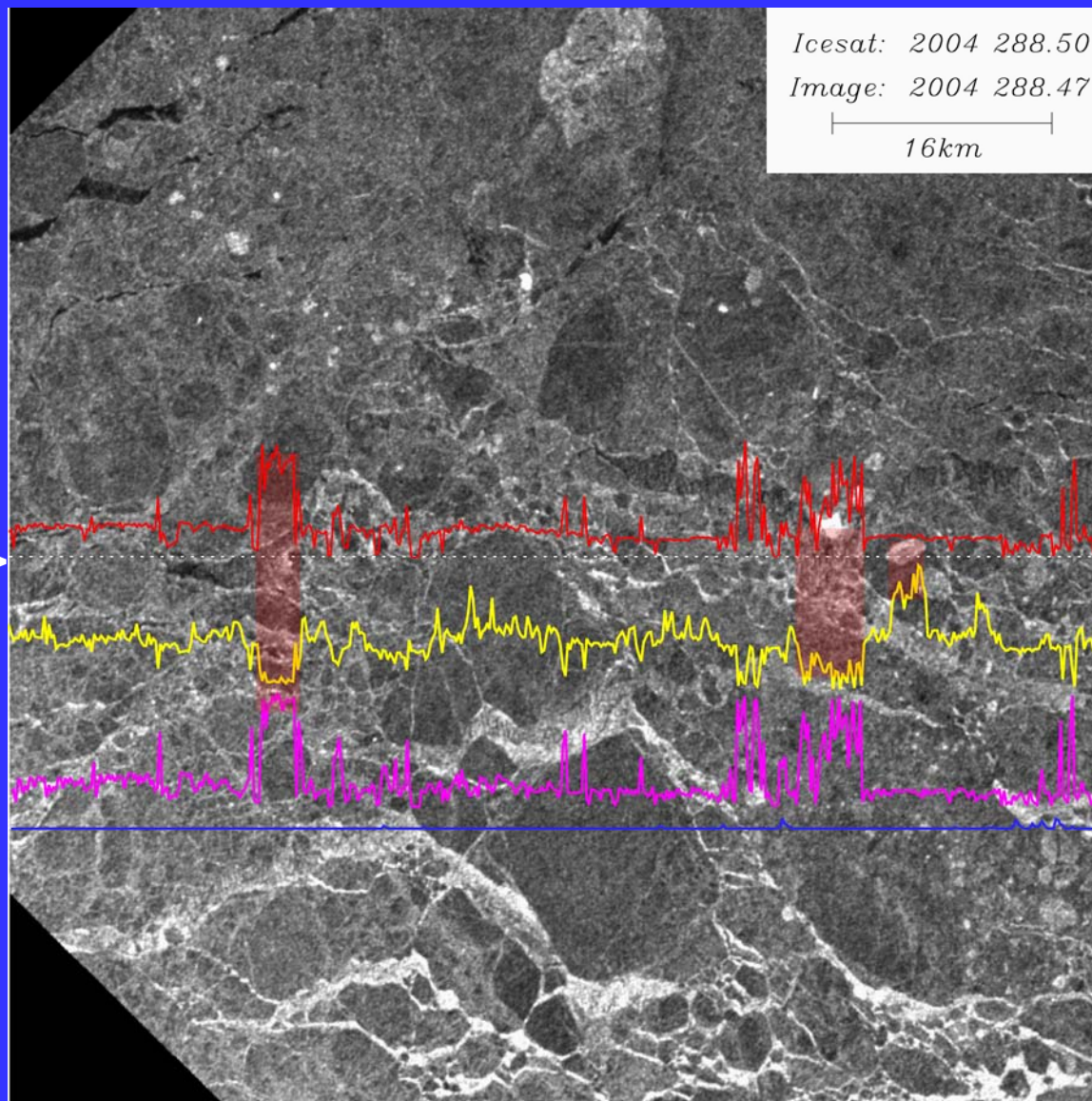
Elevation

SIVAR  
Gain





TRACK >



Reflectivity

Elevation

SIVAR  
Gain



## Summary



- **Envisat image dataset**
  - **Restricted access (not for general distribution).**
  - **Addition of name on CAT-1 proposal if access is desired.**
- **Derived deformation data**
  - **No restrictions**
  - **15 daily deformation fields**